Please add new claims:

24. A planar antenna (30) comprising:

a plurality of antennas (33, 41, 49) positioned relative to each other in a predetermined orientation,

antenna 33 comprising patches 34, 36 and 38, antenna 41 comprising patches 42, 44 and 46, and antenna 49 comprising patches 40, 48 and 50,

each of said antennas (33, 41, 49) being selectively electrically connectable to one or more of the other antennas,

a plurality of switches (56, 57) electrically connecting said plurality of antennas so that closing one of said switches causes two antennas to be electrically connected,

an antenna array (30) defined by said plurality of switches (56, 57) in combination with said plurality of antennas (33, 41, 49),

characterized in that

said antennas (33, 41, 49) are positioned on a planar substrate (31) in such a way that at least two different lobes (70, 72) are provided by connecting different antennas (33, 41, 49).

25. A planar antenna according to claim 24,

characterized in that

a central patch (50) performing a coupling function to a microwave circuitry, such as a waveguide (10), a coaxial probe, via a hole, a slot coupling or any other type of coupling.

26. A planar antenna according to claim 25,

characterized in that

all other patches (34, 36, 38, 40, 42, 44, 46, 48) have a length which is optimized to make the respective patch resonate at a central frequency and a width which is adjusted to the impedance and radiation power of the antenna.

27. A planar antenna according to claim 25,

characterized in that

it comprises a left, a central and a right antenna (33, 41, 49) each comprising three patches (34, 36, 38, 40, 42, 44, 46, 48, 50), wherein said patches of each antenna are electrically connected by vertical lines (58, 50, 62) and the left and right antennas (33, 41) respectively and said central antenna element (49) are electrically connectable by said switches (56, 57).

28. A planar antenna according to claim 26,

characterized in that

it comprises a left, a central and a right antenna (33, 41, 49) each comprising three patches (34, 36, 38, 40, 42, 44, 46, 48, 50), wherein said patches of each antenna are electrically connected by vertical lines (58, 50, 62) and the left and right antennas (33, 41) respectively and said central antenna element (49) are electrically connectable by switches (56, 57).

29. A planar antenna according to claim 24,

characterized in that,

a waveguide (10) is provided for coupling to the planar antenna.

30. A planar antenna according to claim 25,

characterized in that

the waveguide (10) comprises a transition (18) to the planar antenna which is terminated by a waveguide flange (16).

31. A planar antenna according to claim 30,

characterized in that

the transition (18) comprises a "Doggy bone" filter (20) which reduces the spurious radiation at harmonic frequencies.

32. A planar antenna according to claim 31,

characterized in that

the distance between the "Doggy bone" filter (20) and the plane of the planar antenna (3) is about a waveguide length when the waveguide (10) is mounted on the surface of the planar antenna (30).

33. A planar antenna according to claim 29,

characterized in that

the waveguide (10) is enlarged in its larger dimension in order to ensure a constant electromagnetic field on its rear aperture to provide impedance matching.

34. A planar antenna according to claim 33 wherein said waveguide (10) comprises a rectangular aperture which is designed to provide enough energy to said central patch (50) and to ensure good matching between the waveguide (10)

and said planar antenna.

35. A planar antenna according to claim 34 wherein said switches are PIN diodes.

36. A planar antenna according to claim 35 further comprising a path for DC current to polarize said PIN diodes and formed to have no influence on the antenna radiation pattern.

37. A planar antenna according to claim 36 further comprising connection pads (52, 54) for applying DC current to said diodes.

38. A planar antenna according to claim 35 further comprising control lines (66, 68) and a material absorbing microwaves covering said control lines (66, 68).

39. A planar antenna according to claim 24 further comprising circuitry for controlling said planar antenna (30) by obtaining at least one Doppler Signal from at least one measurement device (100, 102) working with at least one lobe of said planar antenna (30), processing said Doppler Signal; according to an algorithm and performing high-speed switching between the configurations of said planar antenna (30) in accordance with said algorithm.

40. A planar antenna according to claim 39 wherein said circuitry further comprises sample and hold circuits (114, 116, 118, 120) for sampling said obtained Doppler Signals.

41. A planar antenna according to claim 40 wherein said sample and hold circuits (114, 116, 118, 120) are synchronized with said high-speed switching.

42. A planar antenna according to claim 41 wherein said circuitry comprises a digital signal processor for processing said Doppler Signal.

43. A planar antenna according to claim 42 wherein said digital signal processor processes two Doppler Signals obtained from two measurement devices (100, 102) and corresponding to two different lobes of said planar antenna and calculates from said Doppler Signals an intermediate lobe by weighting said Doppler Signals.

44. A planar antenna according to claim 43 further comprising an oscillator (108) which produces a sampling frequency signal with an accuracy suitable for sampling.

45. A planar antenna according to claim 44 wherein said sampling is performed by pulse width modulation.

46. A planar antenna according to claim 24 wherein said planar antenna is employed as a door opener sensor (152) which performs a parallel traffic rejection algorithm which processes the information received from said planar antenna in such a way that at least two different lobes (154, 156) of said planar antenna are analyzed in order to calculate the direction of a pedestrian moving in or near to the area covered by said door opener sensor (152).

47. (Amended) A planar antenna (30) comprising:

a plurality of antennas (33, 41, 49) positioned relative to each other in a predetermined orientation, each of said plurality of antennas (33, 41, 49) being

selectively electrically connectable to one or more of the other antennas,

a plurality of switches (56, 57) electrically connecting said plurality of antennas so that closing one of the switches causes at least two antennas to be electrically connected,

an antenna array (30) defined by said plurality of switches (56, 57) in combination with said plurality of antennas (33, 41, 49),

characterized in that

said antennas (33, 41, 49) are positioned on a planar substrate (31) in such a way that at least two different lobes (154, 156) of the antenna are provided by activating different antennas (33, 41, 49) by said switches (56, 57) located on the antenna substrate,

circuitry for controlling said planar antenna (30) which obtains Doppler Signals from measurement devices, said circuitry comprises a digital signal processor for processing said Doppler Signals, and, said digital signal processor performs a parallel traffic rejection algorithm which processes said Doppler Signals such that said at least two different lobes (154, 156) of said planar antenna are analyzed to calculate the direction of a pedestrian moving in or near to the area covered by said planar antenna.

48. A planar antenna as claimed in claim 46 wherein said planar antenna is mounted on a door header and operates as a door opener sensor and controller.

49. A planar antenna (30) comprising: a plurality of antennas (33, 41, 49)

positioned relative to each other in a predetermined orientation on a planar substrate (31); said plurality of antennas (33, 41, 49) being configured to form either a first antenna configuration (33, 41, 49) or a second antenna configuration (49); a plurality of switches (56, 57) electrically connecting said plurality of antennas so that closing said switches (56, 57) causes antennas (33, 41, 49) to be electrically connected forming said first antenna configuration (33, 41, 49); said switches (56, 57) when open isolate antenna (49) forming said second antenna configuration (49); control circuitry for high speed switching between said first and second antenna configurations and two different lobes (70, 72) produced by said first and second configurations of the antenna; measurement devices (100, 102) coupled to said planar antenna (30) for obtaining Doppler Signals from lobes (70, 72) alternately created by said planar antenna (30); and, processing said Doppler Signals according to an algorithm.

50. A planar antenna (30) comprising: a plurality of antennas (33, 41, 49) positioned relative to each other in a predetermined orientation on a planar substrate (31); said plurality of antennas (33, 41, 49) being configured to form either a first antenna configuration (33, 41, 49), a second antenna configuration (49), a third antenna configuration (33, 49) and a fourth antenna configuration (49, 41); a plurality of switches (56, 57) electrically connecting said plurality of antennas so that closing said switches (56, 57) causes antennas (33, 41, 49) to be electrically connected forming said first antenna configuration (33, 41, 49); said

switches (56, 57) when open isolate antenna (49) forming said second antenna configuration (49); said third antenna configuration (33, 49) being active when said switch (56) is closed and said switch (57) is open; and, said fourth antenna configuration (49, 41) being active when said switch (57) is closed and said switch (56) is open; control circuitry for high speed switching between said first, second, third and fourth antenna configurations and different lobes said configurations of said antennas; measurement devices (100, 102) coupled to said planar antenna (30) for obtaining Doppler Signals from lobes created by said planar antenna (30); and, processing said Doppler Signals according to an algorithm.